Air Resources Board

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Winston H. Hickox
Secretary for Environmental Protection

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March 16, 1999

Mr. John Gray
Hasstech
6985 Flanders Drive
San Diego, California 92121

Dear Mr. Gray:

Clarification of Scope and Conditions of Approval of
Hasstech VacuSmart and VacuChek Instruments

In your letter of January 14, 1999, you requested that we issue a letter of clarification describing the circumstances and conditions applicable to our approval of the Hasstech VacuChek and VacuSmart instruments as equivalent to ARB Test Method TP201.5 including a description of how tests should be conducted. We note that other parties, including state agencies outside of California responsible for approving use of the Hasstech instruments and users of Hasstech equipment, have echoed your request for clarification. We are accordingly providing the following guidance.

Approval of equivalent test methods and site-specific modifications to California Air Resources Board (ARB) test methods is normally considered and granted by ARB's Monitoring and Laboratory Division which also is responsible for drafting new and revised ARB test methods. Authority for such approvals has been delegated to the Monitoring and Laboratory Division Chief by ARB's Executive Officer and carries the same authority as Executive Order approvals of vapor recovery systems although the signature blocks and formats differ.

ARB approval of the Hasstech VacuSmart and VacuChek instruments are granted only for testing specific certified vapor recovery system configurations described in Executive Orders. Approval of the VacuSmart and VacuChek instruments is only for use in measuring average air flow rate and volume in connection with testing by ARB Method TP201.5 to determine A/L ratios. Use of the VacuChek and VacuSmart instruments replaces use of a rotary type positive displacement volume meter described in TP201.5. ARB approval of the VacuChek and VacuSmart instruments is based on evidence that results produced are comparable and effectively equivalent to results obtained using a rotary type positive displacement meter as described in TP201.5. Use of the VacuChek and VacuSmart instruments in testing vapor recovery system

configurations for which they are approved is permissible but not required.

ARB approval of the VacuChek and VacuSmart instruments is contingent on the condition that the manufacturer produce and sell only instruments substantially similar to the instruments used in demonstrations of equivalence to secure ARB approval. ARB must be notified in advance of any substantial proposed change in design and may require that equivalence be re-demonstrated. Any new or modified model which differs substantially from the approved instruments will be identified by a different or modified name to clearly indicate the difference from approved instruments. Revisions of user interface software for the VacuSmart instrument are not considered by ARB to be substantive changes affecting approval.

Any VacuChek or VacuSmart instrument used should be calibrated according to the manufacturer's recommendations and not used if it's calibration is not current. Instruments should be visually inspected at the time of use for possible damage to the seals in the nozzle adaptor, damage to or deterioration of the tubing connecting the adaptor to the instrument, or evidence of physical damage to the instrument. An instrument which yields consistently low A/L values or inappropriate values when testing equipment known to be in good repair should be inspected, repaired and re-calibrated as necessary to rectify such problems.

Users should be thoroughly familiar with the manufacturer's instructions provided with the instrument and have these instructions in their possession whenever the instrument is used. The instrument should be used and operated in accordance with these instructions. The suggested test protocols accompanying this letter are intended to describe and clarify the method of use for which the instruments have been approved.

I hope this letter serves to clarify the appropriate use of the VacuChek and VacuSmart. Please contact me at (916) 263-1628 if you have comments or questions.

Sincerely,

Cynthia L. Castronovo, Manager
Testing Section
Monitoring and Laboratory Division

Enclosures

Suggested VacuSmart Test Protocol

1. Prepare the unit to run a test as described in the manufacturer's instructions. NOTE: it is important to select the correct Stage II System on the VacuSmart during setup; if the Stage II system selected is not the same as the one tested, the A/L values will be wrong.

2. Begin dispensing gasoline at full flow and maintain this flow rate.

3. Watch the dispenser's (gas pump's) meter and press the VacuSmart's Timing Button when 0.5 gallons has been dispensed to begin timing 2 gallons.

4. Continue watching the dispenser's (gas pump's) meter and press the VacuSmart's Timing Button again when a total of 2.5 gallons has been dispensed to finish timing 2 gallons.

5. Stop dispensing gasoline.

6. The VacuSmart will display the A/L value. Record this value.

Various versions of user interface software may be supplied with the VacuSmart; this does not affect the applicability of this protocol. The user must always follow manufacturer's instructions regarding test preparation, procedures and safety precautions. Failure to do so may affect test results and invalidates ARB approval.

Suggested VacuChek Test Protocol

1. Prepare the unit to run a test as described in the manufacturer's instructions.

2. Begin dispensing gasoline at full flow and maintain this flow rate.

3. Watch the dispenser's (gas pump's) meter and start the stop watch when 0.5 gallons has been dispensed to begin timing 2 gallons.

4. During the timing period, watch the VacuChek's gauge and determine the average value of "Flow Units" indicated by the gauge during the period after the needle settles to a steady state. On some Stage II vapor recovery systems the reading will oscillate, decay or increase as the test proceeds; after any decay or increase has settled and when any oscillation is steady, take the midpoint between high and low readings as the average.

5. When a total of 2.5 gallons has been dispensed, stop the stopwatch.

6. Stop dispensing gasoline.

7. Record the time to dispense 2 gallons as measured with the stop watch and the average reading (Flow Units).

8. Use the recorded values and the Air/Liquid Chart in the VacuChek Operating Manual to find a Chart A/L Value.

9. Multiply the Chart A/L Value by the appropriate Stage II Vapor Recovery System Correction Factor found in the VacuChek Operating Manual for the specific type of Stage II vapor recovery system tested.

10. Multiply the result from 9 above by the VacuChek Correction Factor for the specific instrument used(found on the VacuChek front panel).

11. Record both correction factors and the final corrected A/L value from 10 above.

The user must always follow manufacturer's instructions regarding test preparation, procedures and safety precautions. Failure to do so may affect test results and invalidates ARB approval.